

CLAIMS

1. A speaker including:

5 a magnet circuit assembly including:

 a frame; and

 a permanent magnet;

 a diaphragm assembly including:

 a diaphragm; and

 a voice coil attached to an outer periphery of the

10 diaphragm; and

 an edge that is attached to the frame along an outer periphery thereof and joined onto the diaphragm in a position more peripherally inward than the voice coil along an inner periphery thereof to partly overlap the diaphragm, and that supports the
15 diaphragm assembly with respect to the frame;

 wherein the diaphragm and the edge have a crossover portion in which the diaphragm and the edge overlap with each other, other than a joint thereof.

20 2. The speaker of claim 1, wherein a through-hole is provided in a portion of the diaphragm overlapped by the edge.

 3. The speaker of claim 1, wherein a guide is provided on the diaphragm in the joint of the diaphragm and the edge.

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 4. The speaker of claim 3, wherein the guide is a recess for receiving the joint of the edge.

5. The speaker of claim 3, wherein the guide is a horizontal recess for receiving the joint of the edge.

6. The speaker of claim 3, wherein the guide is a U-shaped 5 groove for receiving the joint of the edge.

7. The speaker of claim 3, wherein the guide is a V-shaped groove for receiving the joint of the edge.

10 8. The speaker of claim 1, wherein the diaphragm is structured of a sheet material.

9. The speaker of claim 1, wherein the edge is structured of a sheet material.

15 10. The speaker of claim 1, wherein the edge is structured of a material different from that of the diaphragm.

11. The speaker of claim 1, wherein the edge is structured of a 20 material thinner than that of the diaphragm.

12. The speaker of claim 1, wherein the edge is structured of a material softer than that of the diaphragm.

25 13. The speaker of claim 1, wherein the edge is structured of a material having larger internal loss than that of the diaphragm.

14. The speaker of claim 1, including a tangential rib on the

edge.

15. A module including:

the speaker of claim 1; and

5 an electronic circuit coupled to the speaker.

16. Electronic equipment having the speaker of claim 1 incorporated therein.

10 17. A device having the speaker of claim 1 incorporated therein.

18. A method of manufacturing the speaker of claim 1 including:

manufacturing the magnetic circuit assembly;

manufacturing the diaphragm assembly;

15 positioning the diaphragm assembly and the frame on a positioning jig;

coupling the diaphragm assembly to the frame using the edge;

removing the positioning jig; and

20 in place of the positioning jig removed, inserting and joining the magnetic circuit assembly to the frame.

19. The method of manufacturing the speaker of claim 18, wherein the positioning jig positions an inner diameter of the 25 diaphragm assembly and an inner diameter of the frame.